IN THE CLAIMS:

1. (Currently amended) An earth leakage protection device comprising:

an input for connecting to a measuring toroid of an earth leakage current,

comparison means for comparing a signal representative of said earth leakage current with a reference threshold,

processing means to command a trip relay for opening main contacts when an earth leakage fault is detected,

rectifying means for receiving at least one signal representative of an earth leakage current, and

filtering means comprising a first internal part that comprises two buffer circuits to command a current mirror that references a filtering signal to a power supply line or a reference line, with a resistive element arranged in an integrated circuit, and a second external part with a capacitive element arranged outside said integrated circuit and connected to the internal part by a filtering output, said filtering means, connected to the rectifying means, for:

filtering a rectified signal supplied by the rectifying means; and

supplying a filtered rectified signal to said comparison means~~; and~~

~~matching a set of defined fault signals including impulsion peaks~~.

2. (Previously Amended) The earth leakage protection device of claim 1 wherein the filtering means comprises a low-pass filter having a cut-off frequency between 2 and 4 times the fundamental frequency of an electrical power system.

3. (Previously Amended) The earth leakage protection device of claim 1, further comprising an integrated circuit comprising:

an amplifier receiving input signals,

the rectifying means connected to an output of the amplifier,

at least a first part of the filtering means connected to an output of the rectifying means and comprising a filtering output,

a comparator connected to said first part of the filtering means,

control means comprising a time delay device to monitor tripping and non-tripping times connected to an output of said comparator, and

a tripping control output connected to an output of the processing means.

4. (Cancelled).

5. (Cancelled).

6. (Cancelled).

7. (Cancelled).

8. (Cancelled).

9. (Cancelled).

10. (New) An electrical switchgear unit comprising main conductors and contacts connected in series, a measuring toroid of an earth leakage current surrounding the main conductors, and a trip relay for opening said main contacts, and an earth leakage trip device according to claim 1 connected to the measuring toroid and to the trip relay.